

(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: **05025634 A**

(43) Date of publication of application: 02 . 02 . 93

(51) Int. Cl.

**C23C 14/56**

**C23C 16/54**

(21) Application number: 03201371

(22) Date of filing: 16 . 07 . 91

(71) Applicant: **NIPPON SHEET GLASS CO  
LTD EBARA RES CO LTD**

(72) Inventor: **NAKAI HIDEMI  
OGINO ETSUO  
SUZUKI HIDETOMO  
FUJII TOSHIAKI**

(54) **VACUUM FILM FORMING DEVICE**

(57) Abstract:

**PURPOSE:** To coat the surface of a substrate with a film having decreased defects by irradiating a photoelectron releasing member with electromagnetic waves to release photoelectrons and capturing the fine particles electrified by the photoelectrons in the sputtering chamber of the vacuum film forming device.

**CONSTITUTION:** The photoelectron releasing member 31 (gold plated stainless steel) kept at a negative potential and a capturing plate 33 (stainless steel) kept at a positive potential are disposed via an electrical insulator 34 in the lower part of the sputtering chamber 12 of a vacuum chamber consisting of a charging chamber 11 and the sputtering chamber 12. A UV lamp 32 is provided in the upper part of the sputtering chamber 12. A UV lamp 32 is lighted and the photoelectron releasing member 31 is irradiated with UV rays. A voltage is impressed to this photoelectron releasing member 31 and the inside of the sputtering chamber 12 is evacuated to a vacuum. The fine particles in the vacuum chamber are, therefore, electrified and captured by the photoelectrons released from the photoelectron releasing member 31. The sputtering of a

base body 20 is executed in this vacuum chamber, by which the surface of the base body is coated with the film having the decreased defects, such as pinholes.

COPYRIGHT: (C)1993,JPO&Japio

